

Mammoth Yosemite Airport Expansion
Environmental Assessment and FONSI

Prepared for:

Federal Aviation Administration

Prepared by:

The Town of Mammoth Lakes
Jones & Stokes
Ricondo & Associates, Inc.

March 2001

MAMMOTH YOSEMITE AIRPORT

Environmental Assessment and FONSI

1. The cumulative effects language from Page 6-1 of Appendix G of the Final Environmental Impact Assessment is hereby added to Section 5.22.3.8. That addition reads:

Constructing the proposed project would result in cumulative effects on wildlife species. As Mammoth Lakes and the surrounding region continue to grow, effects (including habitat loss and human disturbance) on wildlife species such as mule deer and sage grouse will increase. Increased noise and human disturbance from increased use of the airport would decrease the value of the area for wildlife species. Recommendations outlined in Chapter 7 of Appendix G, "Recommendations", would only partially compensate for local losses of these resources. The measures would reduce the magnitude of effects but would not fully reduce cumulative effects related to fragmentation and human disturbances, particularly noise disturbance and the inhibition of migratory movement by deer resulting from deer-proof fencing.

2. The following language is added as a last paragraph to Section 5.9.3:

The seed mix and method for seeding shall be coordinated with the Department of Fish and Game (DFG) and the U.S. Forest Service. The revegetation shall be monitored to assure its successful establishment and the area shall be reseeded if needed. The fence design and construction shall be coordinated with DFG and the U.S. Forest Service. The fencing shall be monitored to determine impacts on deer movement and sage grouse, and the effectiveness of the methods for reducing raptor perching shall be monitored. Should substantial adverse effects be identified, the Town of Mammoth Lakes will consult with DFG and the Forest Service on additional mitigation. Final approval of the off-site mitigation is the responsibility of the Forest Service.

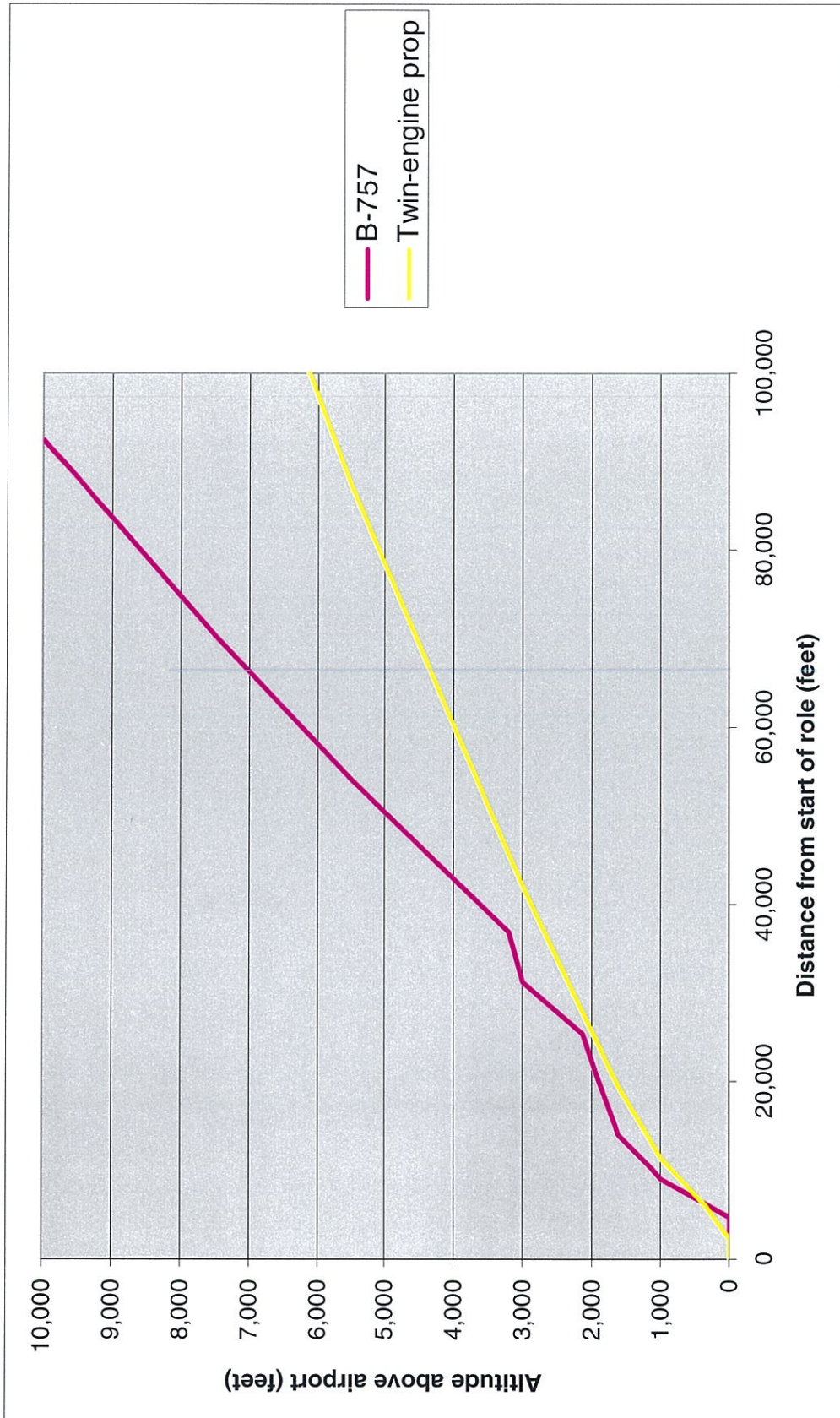
3. Page V-65, Section 5.10.2. The second to last sentence shall be replaced with:

The FAA shall consult with the Fish and Wildlife Service, including the preparation of a Biological Assessment.

4. Paragraph 2 of Section 4 of the FONSI shall be corrected to state:

Pursuant to the Endangered Species act of 1973, as amended, the FAA will consult with the U.S. Fish and Wildlife Service (FWS). A Biological Assessment will be prepared and submitted to FWS. While the biological study for the project determined that there would no significant effect on listed threatened or endangered species, there could be some effect; therefore, consultation is required.

5. The following provides background material supporting Response 26, Section L.12, Appendix L, Response to Comments, regarding the potential for birdstrikes.



Source: Federal Aviation Administration, Integrated Noise Model version 6.0b
Prepared by: Ricondo & Associates, Inc.

Exhibit 1

Departure Profile Comparison

Exhibit 1

Environmental Assessment

March 2001

In contrast to the Mammoth Yosemite Airport situation, Beale Air Force Base (AFB) is located in the Central Valley just east of Marysville, California. The AFB is located within one of the most heavily used portions of the Pacific Flyway. Beale AFB is located in a region dominated by rice production, and is in close proximity to the Yuba River, Feather River, Bear River and the Butte Sink wetland. High densities of waterfowl, raptors, and passerine birds winter travel through this region. Information recorded on Bird Aircraft Strike Hazard (BASH) incidents at Beale AFB between 1985 and 1995 indicates that an average of 25 bird-aircraft collisions have occurred annually over the 10-year period (Brathwaite pers. comm. See Exhibit 2). Sparrows comprised the majority of birdstrike incidents (27%). A large percentage of the flying hours included training missions with repeated touch-and-goes at the airport, where collisions are more likely to occur (Kerchefson pers. comm.). Beale AFB has a high level of annual aircraft use compared to Mammoth Yosemite Airport; however, the annual birdstrike at Beale AFB are very low.

Given the relatively infrequent occurrence of bird-aircraft collisions in areas with substantially higher bird populations, the lack of any bird strikes at Mammoth Yosemite Airport in the last 10 years, the small increase in flight operations, the limited amount of time that air carrier aircraft are at low altitudes, the overall low bird densities at the proposed project site and project vicinity, and the ability of populations to sustain low levels of annual mortality without a long-term effect, the proposed project will not result in a significant reduction of local bird populations.

6. The following provides background material supporting Response 41, Section L.20, Appendix L, Response to Comments, regarding potential impacts to sage grouse.

Dr. Robert Gibson (University of Nebraska) has studied sage grouse in Long Valley for more than 15 years. Dr. Gibson did not believe that the construction work proposed at the Airport, including fencing, would have an adverse effect on sage grouse given the current disturbed nature of the site (Gibson pers. comm.). Dr. Gibson did believe that there was a potential for low-flying aircraft to disturb grouse. He knew of no studies on sage grouse related to noise disturbance. He did have observational information from his field studies that indicated sage grouse were sensitive to visual disturbances from aircraft. His observations were based on low-flying ultra-light aircraft and on small single-engine aircraft flying around Long Valley. The planes observed by Dr. Gibson were not departing or arriving at Mammoth Yosemite Airport. He believed that birds would be likely to take cover when aircraft fly over them.

Dr. Gibson's main concern was the potential disturbance to lekking and wintering sage grouse from arriving and departing aircraft. He suggested that the Bureau of Land Management (BLM) biologist be contacted and that the telemetry information that has been collected since 1985 be plotted on a map with the flight paths of arriving and departing aircraft (see Exhibits 3 and 4).

Dr Gibson's sage grouse data were not collected to show distribution of sage grouse in the project area, but the information is useful for showing where the concentrations of grouse were during the lekking season and to confirm the use of historical lek sites. The telemetry data also provide information on areas of use by grouse in the winter. The fact that Dr. Gibson's research revealed a dearth of information on grouse location within the project area, however, does not preclude the potential for sage grouse use in those areas.

Exhibit 2

Number of Bird Strikes by Bird Group at Beale AFB between January 1985 and October 1995.

Species/Group ¹	Number of Air Strikes	Summary Group
Pied-billed grebe	1	Nonwading Waterbirds
Great egret	1	Waders
Canada goose	2	Nonwading Waterbirds
American wigeon	3	Nonwading Waterbirds
Duck	1	Nonwading Waterbirds
Mallard	4	Nonwading Waterbirds
Northern pintail	1	Nonwading Waterbirds
Hawk	2	Hawks
Red-tailed hawk	3	Hawks
American kestrel	1	Falcons
Falcon	1	Falcons
Gull	1	Nonwading Waterbirds
Mourning dove	2	Other
Barn owl	3	Owls
Owl	1	Owls
Western screech-owl	1	Owls
Swift	1	Other
Swallow	5	Perching birds
European starling	8	Perching birds
Sparrow	17	Perching birds
Western tanager	1	Perching birds
Blackbird	1	Perching birds
Red-winged blackbird	1	Perching birds
Western meadowlark	4	Perching birds
Subtotal	66	
Unknown species	179	
Total	245	

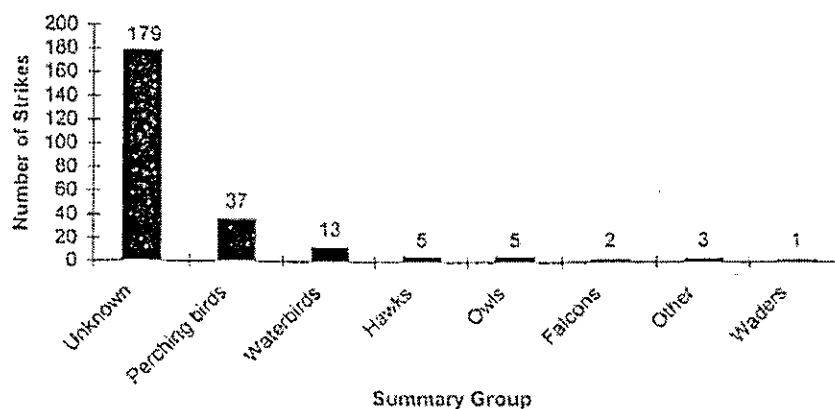
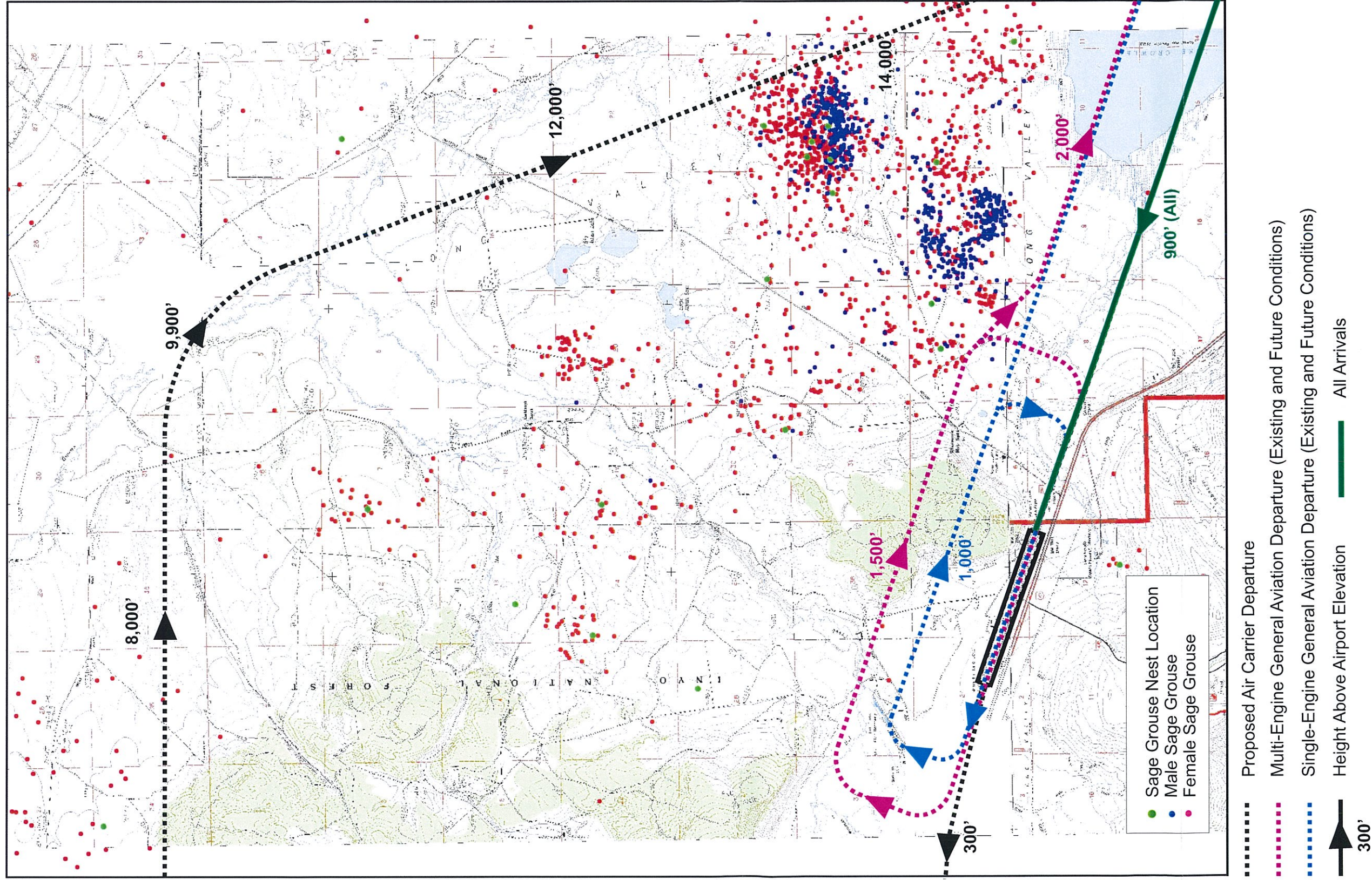
¹Bird species or group data were provided by Beale Air Force Base 9th Reconnaissance Wing Safety Office.

Figure 6. Number of Bird Strikes by Bird Group at Beale AFB between January 1985 and October 1995.



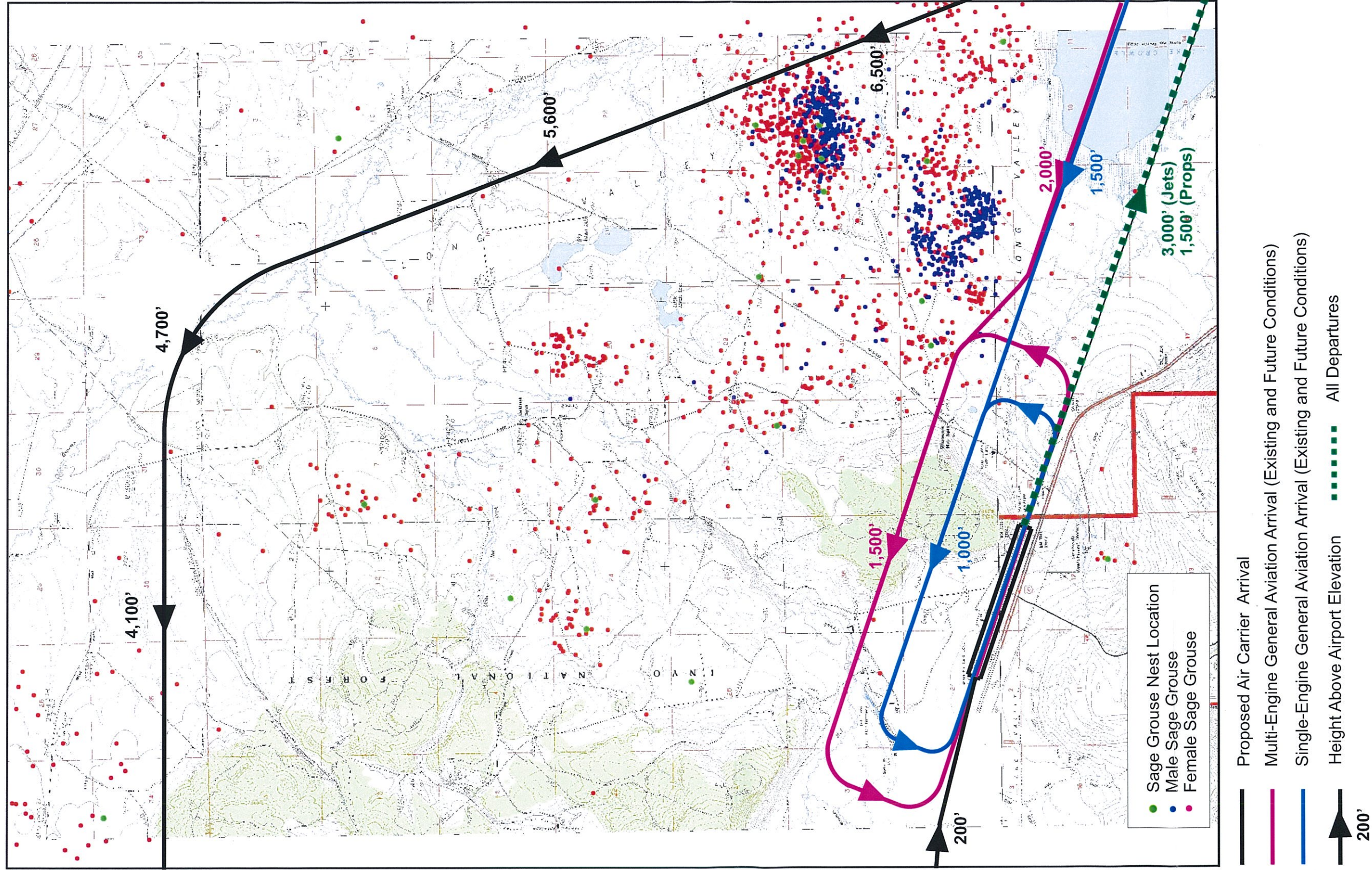
Source: Base Map- United States Geological Survey; Sage Grouse Data- Robert Gibson, Biologist, University of Nebraska;
Flight Tracks- American Airlines, Mammoth Yosemite Airport, and Ricoondo & Associates, Inc.
Prepared by: Ricoondo & Associates, Inc.

Exhibit 3

north

Flight Tracks in Relation to Sage Grouse Locations Landing and Departing to the West

P:\Mmh Responses\Exhibit 4_flighttrack_landing east



Source: Base Map- United States Geological Survey; Sage Grouse Data- Robert Gibson, Biologist, University of Nebraska;
Flight Tracks- American Airlines, Mammoth Yosemite Airport, and Ricoondo & Associates, Inc.
Prepared by: Ricoondo & Associates, Inc.

Exhibit 4

Flight Tracks in Relation to Sage Grouse Locations Landing and Departing to the East

The telemetry location information showed that lek sites used by sage grouse were outside the flight paths for Mammoth Yosemite Airport. The flight path would remain the same under the proposed project. Lek site number 2 is approximately 1 mile north of the direct approach and departure path from the airport. The proposed air carrier aircraft would be at an elevation of approximately 600 feet above the runway elevation and 800 feet above ground level at their closest distance to the lek site (approximately 1 mile).

Wind conditions at the Airport dictate the flight direction of arriving and departing planes. Planes coming from the east will sometimes land at the west end of the airport, and departing planes traveling east sometimes will takeoff from the west end of the runway. Under both scenarios, the aircraft would fly north over the western portion of Lake Crowley. The known concentration area of sage grouse therefore would be more than 0.5 mile northwest of the existing flight path (see Exhibits 3 and 4). Other portions of the flight path would be further from any concentration of sage grouse. Along the portion of the existing flight path that is closest to the known concentration of sage grouse, air carrier aircraft would be 4,700 to 7,400 feet above ground level for arriving aircraft and 9,900 to 15,400 feet above ground level for departing aircraft. Therefore, aircraft would be nearly 1 mile or more above and approximately 0.5 mile northwest of the grouse.

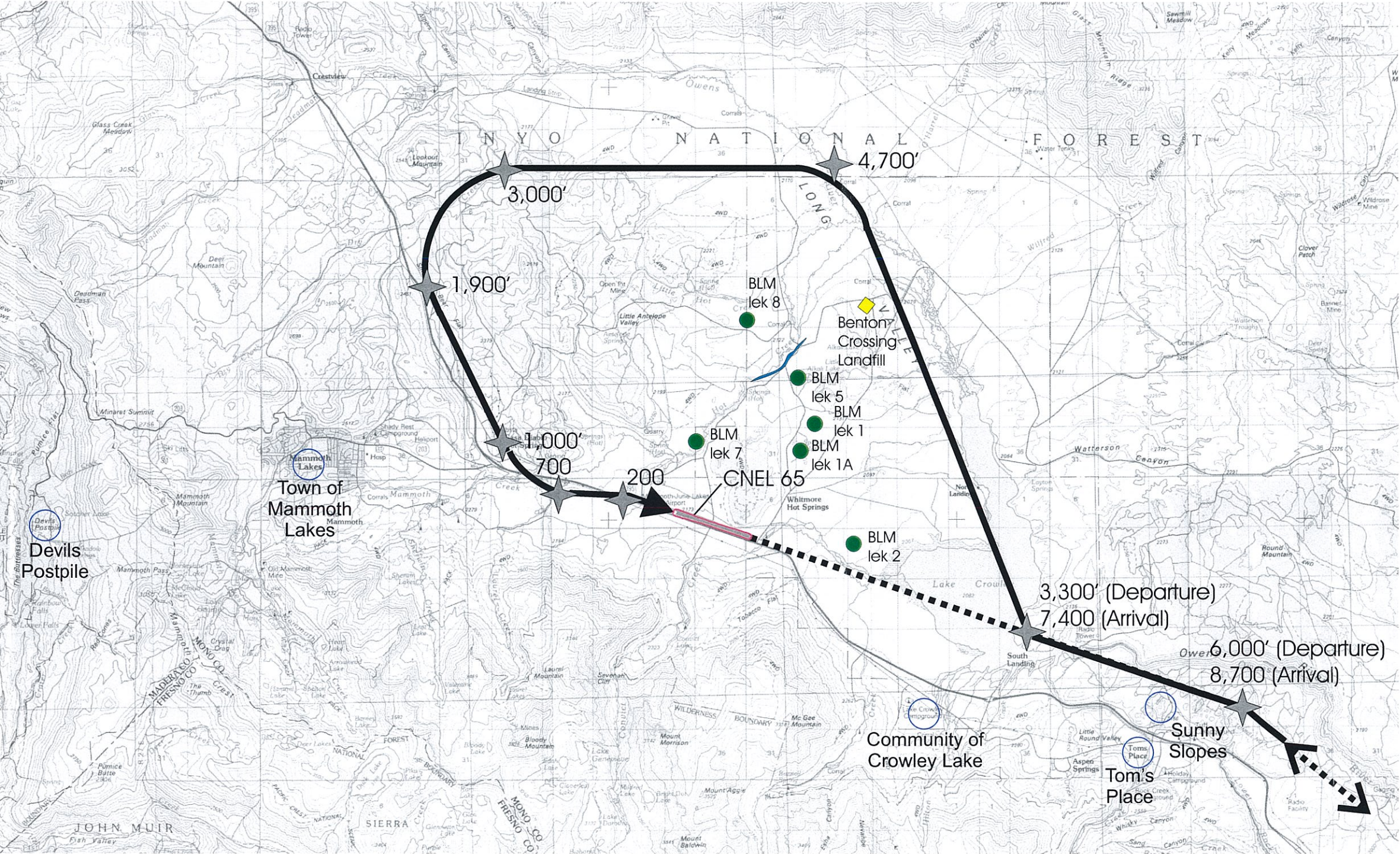
Based on the above information, Dr. Gibson stated that disturbance to grouse on the lek is not likely, particularly if flights are at mid-day when birds would be away from the lek sites. In winter, he would expect the birds to take cover if planes pass overhead or nearby. Dr. Gibson believed that a jet aircraft 2,000 feet away would not cause the birds to flush.

An aircraft noise analysis was also conducted for the leks 2, 7, and 8. Cumulative noise levels in the vicinity of the leks north of the Airport, leks 7 and 8 were below 30 CNEL and the air carrier aircraft would not overfly these sites as shown in Exhibits V-11 and V-12 in the Final EA (the location of lek 7 has been added to these exhibits per the request of DFG). The cumulative aircraft noise level in the vicinity of lek 2 is anticipated to be CNEL 38 by 2022 with the addition of air carrier operations.

A single-event noise analysis was also conducted for lek 2. The Lmax metric is "Maximum A-level" and represents the estimated maximum audible noise level (i.e., what a person at the site would experience as the maximum noise level) for a single aircraft overflight. The following is a comparison of the Lmax levels at the Lek 2 site for the primary aircraft noise contributors compared with the B-757:

Aircraft	Lmax
Lear 35 business jet	74 dBA
Twin-engine piston prop	73 dBA
B-757-200	68 dBA

The calculations of noise levels were made using the FAA Integrated Noise Model version 6.0. The B-757 aircraft would produce less single event noise than aircraft in the existing fleet and flight patterns at the Airport. Based on this information, there would be no more significant aircraft noise impact on the lek sites than currently is experienced with the existing aircraft fleet at the Airport.



Legend

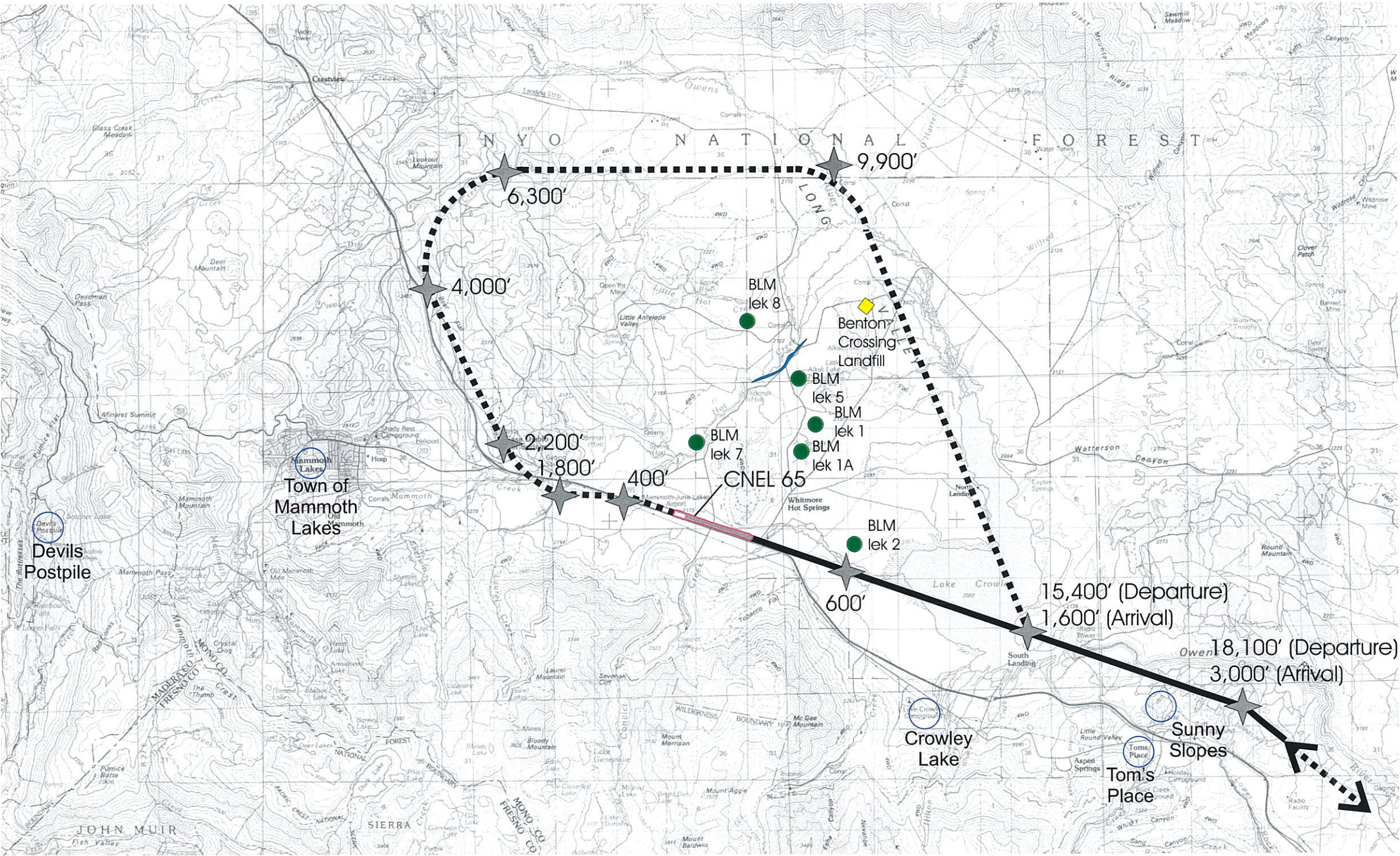
- Arrival Track
- - - Departure Track
- Runway
- ★ Way Point
(All height are above ground level.)
- BLM lek
- Wild Scenic River Eligible
- 2022 CNEL 65 Noise Exposure Level with Proposed Action
- ◆ Landfill

Source: American Airlines Flight Track, Brown-Buntin Associates, Inc. Noise Contours, Bureau of Land Management leks & Wild and Scenic River, Landfill Town of Mammoth Lakes.
Prepared by: Ricondo & Associates, Inc.

Exhibit V-12

↑ north
Scale 1" = 12,000'

Proposed Air Carrier Flight Tracks - Runway 9



Legend

- Arrival Track
- Departure Track
- Runway
- Way Point
(All height are above ground level.)
- BLM lek
- Wild Scenic River Eligible
- 2022 CNEL 65 Noise Exposure Level with Proposed Action
- Landfill

Source: American Airlines Flight Track, Brown-Buntin Associates, Inc. Noise Contours, Bureau of Land Management leks & Wild and Scenic River, Landfill Town of Mammoth Lakes.
Prepared by: Ricondo & Associates, Inc.

Exhibit V-11

↑ north
Scale 1" = 12,000'

Proposed Air Carrier Flight Tracks - Runway 27

Based on the distance of sage grouse lekking and winter-use areas from the existing flight path (0.5 mile or more) and the high elevation of aircraft along the flight path near grouse-use areas when circling north of the Airport (4,700 to 15,400 feet), noise generated by the aircraft is unlikely to increase the disturbance to the grouse. Furthermore, as discussed in the EA, the proposed air carrier aircraft would result in less noise at the lek sites than some aircraft currently using the Airport because of the greater distance from the air carrier aircraft to the lek sites.

Mr. Mathew Holloran from the University of Wyoming has been studying sage grouse at the Jackson Hole Airport. The Jackson Hole Airport is located in sage grouse habitat and has a lek at the end of the runway, within the security fence. Mr. Holloran's observations of sage grouse indicate that males are not easily disturbed by air aircraft noise while on a lek. Males on the lek at the end of the runway at Jackson Hole Airport will stay on the lek while jet aircraft are performing preflight engine "run-up" tests. Direct overflights may disturb birds in winter, possibly causing birds to relocate as much as 0.5 mile from the flight line; however, he believed that jet aircraft flying at an elevation of 2,000 feet above ground may cause the birds to take cover, but not to flush. Mr. Holloran felt that as long as there was suitable wintering habitat away from the flight path, there would be no significant effect on the wintering grouse population, as Dr. Gibson's data indicate ample habitat away from the flight path.

Using the information on Airport use, the distance of the flight path from the lek sites, aircraft noise analysis and discussions with Dr. Gibson and Mr. Holloran, it is unlikely that the proposed project would affect sage grouse by causing a disturbance that would lead to a reduction in the local population. Therefore, there would be no significant impact on sage grouse in the vicinity of the leks as a result of the introduction of air carrier aircraft at Mammoth Yosemite Airport. This is consistent with the findings of the EA.

7. The following provides additional background material supporting Response 26, Section L.12, Appendix L, Response to Comments, regarding potential birdstrikes.

Per a request from DFG, a letter from Floyd F. Bero is attached. No raptor migration data are included; given the low incidence of birdstrikes reported or anticipated, no adverse effects on raptor populations are expected.

CITATIONS

Printed References

Federal Aviation Administration. 2000. Wildlife strikes to civil aircraft in the United States 1990–1999. September. Federal Aviation Administration National Wildlife Strike Database Serial Report Number 6. Prepared by E. C. Cleary, S. E. Wright, and R.A. Dolbeer. Report of the Acting Associate Administrator of Airports, Office of Airport Safety and Standards, Airport Safety & Certification, Washington, D.C.

Personal Communications

Edward R. Brathwaite. Sergeant. U.S. Air Force, Beale Air Force Base, CA. Facsimile copy of summarized bird airstrike data (1985–present) from Beale Air Force Base.

Edward Cleary. Federal Aviation Administration. Email to Bill Taylor, Senior Planner, Town of Mammoth Lakes, California.

Robert Gibson. Biologist. University of Nebraska. Telephone conversation.

Matthew Holloran, Biologist. University of Wyoming. Telephone conversation with Bill Taylor, Senior Planner, Town of Mammoth Lakes, California.

Kirsten Kerchefson. Biologist. Beale Air Force Base. Fax Memo.